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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,692	05/31/2007	Xavier Briand	20010.0007USWO	9463
52835 7590 11/20/2007 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902			EXAMINER FLOOD, MICHELE C	
			ART UNIT 1655	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,692	<b>Applicant(s)</b> BRIAND ET AL.	
	<b>Examiner</b> Michele Flood	<b>Art Unit</b> 1655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/28/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

Acknowledgment is made of the receipt and entry of the amendment filed on September 28, 2006.

**Claims 1-10 are under examination.**

### ***Specification/Title***

The title of the invention is objected to for the following reason: There is an apparent misspelling in the title. Applicant may overcome the objection by replacing "Defence" with Defense. It is also suggested that "Use of" be deleted from the title. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5 provide for the use of ulvans, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant

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is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-5 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The metes and bounds of Claims 6, 9 and 10 are rendered indefinite by the recitation of the term "it" because it is unclear as to the subject matter Applicant intends to direct the instantly claimed invention. The lack of clarity renders the claims vague and ambiguous.

Claims 6 and 7 recite the limitation "the application". There is insufficient antecedent basis for this limitation in the claims.

Claims 6 and 9 recite the limitation "ulvan-derived oligosaccharides". One of ordinary skill in the art would not know how to interpret the metes and bounds of this

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limitation. A derivation of a chemical compound may be closely patterned after the subject chemical compound or may be loosely patterned after the subject chemical compound, such that it may bear no resemblance or form recognizable as the subject chemical compound which maybe chemically and/or biologically unrelated in function or form to the subject chemical compound.

Claims 7, 8 and 10 recite the limitation "the plants". There is insufficient antecedent basis for this limitation in the claims.

Claims 7 and 8 recite the limitation "roots". There is insufficient antecedent basis for this limitation in the claims.

Regarding Claim 8, line 4, the parenthetical expression, "(hydroponics, dropwise, etc.)" renders the claim indefinite because it is unclear if the phrase is intended to be a limitation of the claimed subject matter. Moreover, it is unclear as to what subject matter "etc." would encompass.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Nairn et al. (A\*) made evident by the teachings of Lahaye et al. (WW; Lahaye, M. et al.

Carbohydrate Research, (1994), 262: 115-125. *Chemical characteristics of insoluble*

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*glucans from the cell wall of the marine green alga Ulva lactuca (L.) Thuret.) and Bi et al. (UU; Bi, F. et al. Pak. J. Bot. (1999), 31(1): 193-198. Studies on aqueous extracts of three green algae as an elicitor of plant defence mechanism.).*

Applicant claims a method for activating plant defense and resistance reactions against biotic or abiotic stresses comprising application to plants an effective amount of ulvans, particularly extracted from green algae of the genus *Ulva* or *Enteromorpha*, or ulvan-derived oligosaccharides. Applicant further claims the method as claimed in claim 6, wherein the application to the plant is carried out via leaves or via roots; wherein the effective amount given to the plants is from 0.1g to 100g per liter, and preferably of the order of 1g per liter, when applied in liquid form via the leaves, in nutritive solutions for the roots, or in solutions for seed or post-harvest treatment, or else from 10 to 1000 per hectare, and preferably of the order of 200g per hectare when applied in solid form, in pulverulent or granulated products.

Applicant claims a plant-protection product comprising an effective amount of at least one ulvan, in particular extracted from green algae of the genus *Ulva* or *Enteromorpha*, or an ulvan-derived oligosaccharide, optionally in combination with one or more fertilizing substances. Applicant further claims the plant-protection product as claimed in claim 9, wherein the plant-protection product is in the form of a liquid or in the form of powder or granules, and wherein the plant-protection product contains an amount of ulvans or ulvan-derived oligosaccharides enabling the delivery to plants from 0.1g to 100 per liter, and preferably of the order of 1g per liter when applied in liquid

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form, or else from 10 to 1000g per hectare, and preferably of the order of 200g per hectare when applied in solid form in pulverulent or granulated products.

Nairn teaches a method for inhibiting vitrification (read herein as a biotic stress) in plants comprising administering an effective amount of a plant protection product, namely an ulvan derived from *Ulva lactuca*. Nairn teaches applying a liquid composition comprising the claim-designated amounts of ulvan in a tissue growth medium (read herein as a fertilizer) to shoots exerted an anti-vitrification effect. See Table 3, in Column 15. An ulvan used in the method taught by Nairn was prepared as described in Lahaye et al. See Column 12, lines 14-24. Accordingly, Nairn teaches a method for activating plant defense and resistance against biotic and abiotic stresses in plants comprising effective amounts of ulvan from *Ulva lactuca* by washing, milling, extraction, fractionation, concentration and enzymatic hydrolysis, as evidenced by the teachings of Lahaye on page 116-117, under "2. *Materials and methods*".

Bi teaches a method for activating plant defense and resistance against biotic or abiotic stresses comprising applying an effective amount of a powdered extract of *Ulva lactuca* I liquid form to chickpea cotyledons. The ulvan was obtained by washing, milling, and sequential extraction in water, dilute sodium hydroxide and hydrochloric acid and ethanol precipitation and freeze-drying, as well as acid hydrolysis.

The references anticipate the claimed subject matter.

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Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Paradossi et al. (VV; Paradossi, G. et al. *Macromolecules* (2002); 35: 6404-6411. *A conformational study on the algal polysaccharide ulvan.*) and Lahaye et al. (N).

Applicant's claimed invention was set forth above.

Paradossi teaches ulvans derived from *Ulva armoricana*, *Ulva lactuca*, *Ulva rotundata* and *Ulva rigida* in the form of a liquid or a powder.

Lahaye teaches ulvans obtained from *Ulva lactuca* and *Enteromorpha compressa*.

Neither Paradossi nor Lahaye expressly teach that the reference compositions have the instantly claimed functional effects. However, the intended use of the claimed composition does not patentably distinguish the composition, *per se*, since such undisclosed use is inherent in the reference composition. In order to be limiting, the intended use must create a structural difference between the claimed composition and the prior art composition. In the instant case, the intended use does not create a structural difference, thus the intended use is not limiting. In the instant case, the compositions taught by each of Paradossi and Lahaye comprise each of the instantly claimed ingredients. Therefore, the instantly claimed functional effects are inherent to the compositions taught by both Paradossi and Lahaye.

Each of the references anticipates the claimed subject matter.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michele Flood whose telephone number is 571-272-0964. The examiner can normally be reached on 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on 571-272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
MICHELE FLOOD  
PRIMARY EXAMINER

Michele Flood  
Primary Examiner  
Art Unit 1655

MCF  
November 10, 2007